

# Electrical Safety Subcommittee Report

**John Reid**

**May 13, 2010**

# ESS Report

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- **Two meetings since last report (January 2010)**
  - February 1
  - April 19
- **Committee Membership is currently being updated , should have all approvals by May 20.**
- **Some ESS committee members have had trouble accessing the newly added electrical determinations to ES&H's Take 5 web pages. It seems that the determinations have been put into a restricted area which requires a Kerberized CA HSM certificate or User password to view. In the past the determinations were available for all to view.**
- **Space heater recommendations on Take 5 can be viewed freely.**

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Electrical Safety Subcommittee Members	Division	Term Expires
John Reid - Chair	AD	12/31/2009
Matt Kufer - Recording Secretary	AD	8/31/2010
Craig Drennan	AD	6/30/2011
John Anderson	AD	5/31/2010
Rich Berquist	FESS	5/31/2010
Joe Pathiyil	FESS	Indefinite
Bob Demaat	PPD	8/31/2010
Tim Martin	PPD	8/31/2010
Mike Utes	PPD	9/30/2012
Alex Yuan	TD	12/31/2011
Mark Thomas (Associate Member)	CD	12/31/2010
Rafael Coll	ES&H	Indefinite
Ed Bucki (DOE Representative)	DOE	n/a

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- **Laboratory has initiated a new contract with Highline to carry out the glove testing program, eliminating the middle man / broker company.**
- **Committee reviewed examples of arc flash warning signs.**
  - Computing Division has already labeled their electrical panels. They were done by an outside contractor and a sample is shown on the following slide.
  - Technical Division has proposed their own label which is similar to Computing Division and shown on a following slide.
  - Committee recommends that all labels are standardized throughout the laboratory.

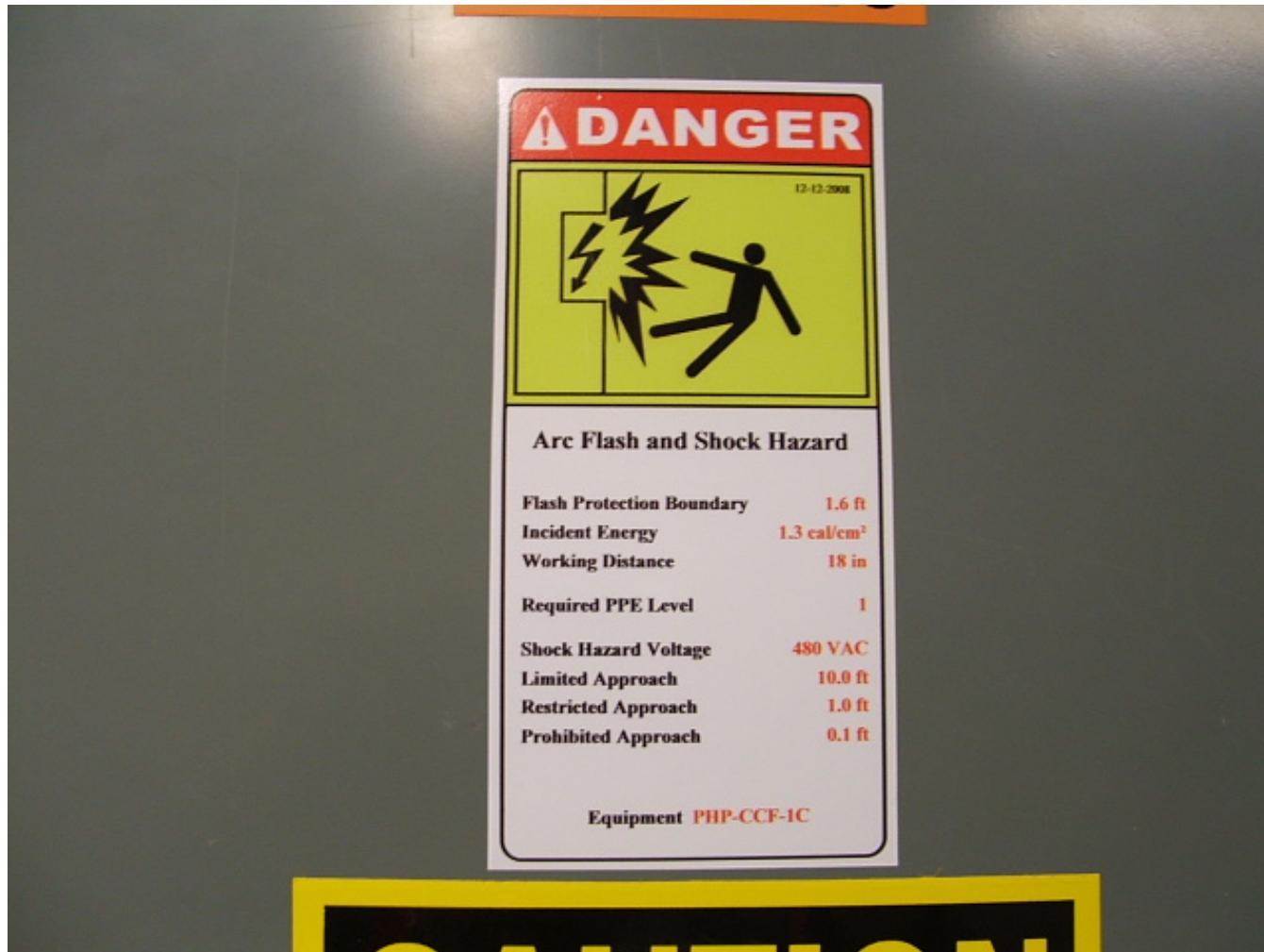
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- **The committee reviewed the chair's rewrite of the ESS Charter per supplied template.**
- **Chair submitted rewrite to ES&H Department.**
- **FESHM Chapter Reviews**
  - Several of the FESHM chapters are up for review including chapter 5048 (Arc flash). 5048 will need to be updated to comply with the NFPA-70E, 2009 rules.
  - The following chapters will also need reviewing: 5040, 5042, 5043, 5045, and 5046.
  - Reviewed chapters should be labeled by simply adding “Updated on xx/xx/xxxx or Reviewed with no changes on xx/xx/xxxx”.



# Computing Division Installed Label



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## Lessons Learned – Committee reviewed three cases

- **Idaho National Lab – 2-2-2010**

- A worker reported he felt a shock while passing through a steel door in a second floor mechanical area. Worker taken to medical for evaluation and was released.
- A safety evaluation found 277 Vac on the light switch cover next to the door.
- The source of energy was a failed light fixture which energized a section of ungrounded conduit connected to the light switch.
- Missing weld was found where the grounding conduit should have been joined to the junction box.
  - Legacy conditions surrounding an inadequate weld resulted in a loss of continuity for the conduit based grounding system.
  - Two circumstances , the loss of adequate grounding & failed light fixture together caused the person to receive a shock.





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- **Lessons Learned**

- Oak Ridge National Lab – 10-5-2009

- Pipe fitter installing 3” self tapping screws into a 7” wall cavity
    - During penetration of the wall a self tapping screw penetrated the back of a recessed 120/208 electrical panel, making contact with an energized copper bus causing circuit breaker to trip.
    - Due to electrical panel being grounded, no injury or shock to pipe fitter.
      - Discuss and ensure worker awareness of potential hazards of wall penetrations activities.

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- **Lessons Learned**

- **Duke Energy – 12-17-2009**

- An employee was burned at a generating station as a result of a 2300 volt switchgear breaker failure.
- Injured worker was assisting another worker racking in a 2300 volt breaker when it failed catastrophically.
- The injured employee was not wearing flame retardant clothing (PPE). Another worker in front of the cubicle was not injured as he was wearing an arc flash coat, face shield and electrical gloves.
  - Safe work practice manual requires the use of arc flash protection for work on switchgear and motor control centers.
  - Specific arc flash procedures require all employees within a defined boundary wear arc flash protection equipment (PPE).
  - Pre job briefing on switchgear breakers must include detailed PPE requirements.
  - Prior to racking breaker in, workers must always verify that breaker is in open position



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